

## What is Claimed is:

- [c1] An array of content addressable memory (CAM) cells, each of said CAM cells comprising:
  - a search line; and
  - a bitline parallel to said search line,
 wherein across said array, search lines and bit lines of said CAM cells are interdigitated, such that said search lines and bitlines alternate across said array.
- [c2] The array of CAM cells in claim 1, further comprising a top matchline and bottom matchline running perpendicular to said search line and said bitline.
- [c3] The array of CAM cells in claim 1, wherein said array includes macros comprising at least two of said CAM cells, and within each of said macros one of the following structures exists:
  - a bit line is between two search lines; and
  - a search line is between two bit lines.
- [c4] The array of CAM cells in claim 3, wherein each of said macros includes a common match clock line shared by the CAM cells within each macro.
- [c5] The array of CAM cells in claim 3, wherein layouts of adjacent macros are inverted with respect to one another.
- [c6] The array of CAM cells in claim 3, wherein each of said macros comprise:
  - a top wordline; and
  - a bottom wordline;
 wherein said top wordline and said bottom wordline cross between each of said CAM macros.
- [c7] The array of CAM cells in claim 5, further comprising a match clock signal running through each of said macros, wherein said match clock signal includes a jog to accommodate said inverted layout of said adjacent macros.
- [c8] A memory array comprising:
  - a plurality of content addressable memory (CAM) macros, wherein each of

said macros includes at least two CAM cells,  
wherein layouts of said macros are alternatively inverted with respect to  
one another within said array, such that layouts of each macro are  
inverted with respect to adjacent macros.

- [c9] The memory array in claim 8, wherein each of said macros comprises:  
a top wordline; and  
a bottom wordline,  
wherein, said top wordline and said bottom wordline cross between each  
of said macros
- [c10] The memory array in claim 8, further comprising a match clock signal running  
through each of said macros, wherein said match clock signal includes a jog to  
accommodate said inverted layout of said adjacent macros.
- [c11] The memory array in claim 8, wherein each of said CAM cells comprises:  
a search line; and  
a bitline parallel to said search line,  
wherein across said array, search lines and bit lines of said CAM cells are  
interdigitated, such that said search lines and bitlines alternate across  
said array.
- [c12] The array of CAM cells in claim 11, further comprising a top matchline and  
bottom matchline running perpendicular to said search line and said bitline.
- [c13] The array of CAM cells in claim 11, wherein within each of said macros one of  
the following structures exists:  
a bit line is between two search lines; and  
a search line is between two bit lines.
- [c14] The array of CAM cells in claim 8, wherein each of said macros includes a  
common match clock line shared by the CAM cells within each macro.
- [c15] A memory array comprising:  
a plurality of content addressable memory (CAM) macros, wherein each of

said macros includes at least two CAM cells,  
wherein layouts of said macros are alternatively inverted with respect to one another within said array, such that layouts of each macro are inverted with respect to adjacent macros and to balance parasitic capacitance across said array.

- [c16] The memory array in claim 15, wherein each of said macros comprises:
  - a top wordline; and
  - a bottom wordline,
 wherein, said top wordline and said bottom wordline cross between each of said macros.
  
- [c17] The memory array in claim 15, further comprising a match clock signal running through each of said macros, wherein said match clock signal includes a jog to accommodate said inverted layout of said adjacent macros.
  
- [c18] The memory array in claim 15, wherein each of said CAM cells comprises:
  - a search line; and
  - a bitline parallel to said search line,
 wherein across said array, search lines and bit lines of said CAM cells are interdigitated, such that said search lines and bitlines alternate across said array.
  
- [c19] The array of CAM cells in claim 18, further comprising a top matchline and bottom matchline running perpendicular to said search line and said bitline.
  
- [c20] The array of CAM cells in claim 18, wherein within each of said macros one of the following structures exists:
  - a bit line is between two search lines; and
  - a search line is between two bit lines.